

In the Claims (Clean Copy)

8. (Amended) The method of Claim 34, wherein said purified nucleic acid sequence comprises the sequence between nucleotides 284 to 1477 of the sequence set forth in SEQ ID NO: 1 or the complement thereof.

B9 9. (Amended) The method of Claim 35, wherein said purified nucleic acid sequence comprises the sequence between nucleotides 484 to 1596 of the sequence set forth in SEQ ID NO: 2 or the complement thereof.

31. (Amended) A method for screening substances capable of modulating the activity of a purified TRAAK channel protein which comprises:

- (a) transferring a purified nucleic acid sequence that encodes the TRAAK potassium channel protein into a cellular host;
- (b) culturing the host under conditions for expression of TRAAK potassium channel;
- (c) reacting selected amounts of the substance to be screened with the cellular host; and
- (d) measuring the effect of the substance to be screened on a potassium channel expressed by the cellular host.

B10 32. (Amended) A method for screening substances capable of modulating the activity of a purified TRAAK channel protein which comprises:

- (a) transferring a purified nucleic acid sequence or a functionally equivalent derivative thereof that encodes the TRAAK potassium channel protein into a cellular host;
- (b) culturing the host under conditions for expression of TRAAK potassium channel;
- (c) reacting selected amounts of the substance to be screened with the cellular host; and
- (d) measuring the effect of the substance to be screened on a potassium channel expressed by the cellular host.

33. (Amended) A method for screening substances capable of modulating the activity of a purified TRAAK channel protein which comprises:

(a) transferring a purified nucleic acid sequence that encodes the TRAAK potassium channel protein into a cellular host;

(b) culturing the host under conditions for expression of TRAAK potassium channel exclusively in brain, cerebellum, spinal cord and retina neural tissues;

(c) reacting selected amounts of the substance to be screened with the cellular host; and

(d) measuring the effect of the substance to be screened on a potassium channel expressed by the cellular host.

34. (Amended) A method for screening substances capable of modulating the activity of a purified protein which comprises:

B10 (a) transferring a purified nucleic acid sequence represented by SEQ ID No: 1 that encodes the protein into a cellular host;

(b) culturing the host;

(c) reacting selected amounts of the substance to be screened with the cellular host; and

(d) measuring the effect of the substance to be screened on a potassium channel expressed by the cellular host.

35. (Amended) A method for screening substances capable of modulating the activity of a purified protein which comprises:

(a) transferring a purified nucleic acid sequence represented by SEQ ID No: 2 that encodes the protein into a cellular host;

(b) culturing the host;

(c) reacting selected amounts of the substance to be screened with the cellular host; and

(d) measuring the effect of the substance to be screened on a potassium channel expressed by the cellular host.

37. (Amended) The method of any of Claims 31 - 35, wherein said process screens substances capable of preventing or treating heart disease in mammals.

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B11 38. (Amended) The method of any of Claims 31 - 35, wherein said process screens substances capable of preventing or treating central nervous system disease in mammals.

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